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10/522,176	01/24/2005	Yoshihiro Hori	70456-071	3563
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EXAMINER				
PHAM, HUNG Q				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/522,176

Applicant(s)

HORI ET AL.

Examiner

HUNG Q. PHAM

Art Unit

2169

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/DE)
Paper No(s)/Mail Date 10/29/08 & 02/23/09
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION
Response to Arguments

Information Disclosure Statement

Regarding the IDS filed on 01/24/2005, all the listed references were considered by the examiner by initializing the first reference, e.g., WO 01/41356, and using a line to indicate the examiner initial is copied down to those entries along and to the end of the line. Therefore, the examiner confirms that all the references in the IDS 01/24/2005 were considered.

Claim Rejections - 35 USC § 112

The rejection of claims 1-7 under 35 U.S.C. § 112, 2nd paragraph, has been withdrawn in view of the amendments.

The rejection of claim 9 under 35 U.S.C. § 112, 2nd paragraph is continued at least in view of the rejected clause *the obtained two management numbers*. The clause *the obtained two management numbers* references other items in the claims. It is unclear what item is being referenced.

Claim Rejections - 35 USC § 103

Applicant's arguments with respect to the rejection under 35 U.S.C. § 103(a) have been fully considered but they are not persuasive.

As argued by the applicant (Remarks, Pages 9 and 10):

A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of

ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 1741 (2007).

On this record, the Examiner failed to identify a reason that would have prompted a person of ordinary skill in this art to modify the device of Miyazaki based on the teachings of Koseki and Steiner to arrive at the claimed subject matter because there is no factual basis to support the Examiner's justification of combining the references.

...

Koseki describes restoring file systems based on transaction logs. The above cited portion describes searching an entire log volume with reference to the sequence number attached to each log record in order to obtain all log records from the oldest log record. It is thus apparent that Koseki does not teach finding the oldest log record "in order to determine the earliest entry of the load and reduce the processing time of writing new load entry" (see the forth full paragraph on page 6 of the Office Action). Accordingly, it would NOT "have been obvious for one of ordinary skill in the art at the time of the invention was made to include the searching and storing technique as taught by Koseki.

Based upon the foregoing, Applicants submit that the Examiner has not established a prima facie basis to deny patentability to the claimed subject matter at least because the applied combination of Miyazaki, Koseki, and Steiner are not proper under 35 U.S.C. § 103 (a). Applicants, therefore, submit that the imposed rejection of claims 1-9 under 35 U.S.C. §103 for obviousness predicated upon Miyazaki, Koseki, and Steiner is not viable and, hence, respectfully solicit withdrawal thereof.

The examiner respectfully disagrees.

Claim 1 was rejected based on a known device ready for improvement by applying a know technique to yield a predictable result. Graham factual inquiries have been resolved at least in view of the following articulation (MPEP § 2143 (D)).

(1) A finding that the prior art contained a "base" device (method, or product) upon which the claimed invention can be seen as an "improvement"

As specified in the Office Action 10/10/2008, the Miyazaki reference disclosed a data storage device, which is a "base" device upon which the Miyazaki device could be improved by known technique. In Miyazaki device, a newly log entry may be registered with SIGNATURE LOG TABLE 2234. When the number of SIGNATURE LOG TABLE 2234 entries exceeds a

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predetermine value as a result of registering the newly entry, the earliest entry may be deleted before registering the newly entry (Miyazaki, Col. 11 -- Lines 56-67). The SIGNATURE LOG TABLE 2234 is shown as below.

SIGNATURE LOG TABLE 2234 LOG 2235

HASH VALUE OF MESSAGE N	SIGNATURE TO MESSAGE N	PURCHASER NAME
HASH VALUE OF MESSAGE N-1	SIGNATURE TO MESSAGE N-1	PURCHASER NAME
⋮		
HASH VALUE OF MESSAGE 1	SIGNATURE TO MESSAGE 1	PURCHASER NAME

Regarding the deletion of the earliest entry as taught by Miyazaki, e.g., entry of message 1, the process of deletion must look through the entries of SIGNATURE LOG TABLE 2234 for an entry that is considered as the earliest entry, which is entry of message 1.

As recited in claim 1, the claimed device performs the step of *searches a plurality of regions in said log storage portion in a predetermined order and stores the new history information relating to the input/output processing of said identified classified data including said received identification information in the determined earliest region.*

The Miyazaki teaching of deletion of the earliest entry and registering the newly entry as discussed above implies the claimed limitation *searches a plurality of regions in said log storage portion*, e.g., searching a plurality of entries in SIGNATURE LOG TABLE 2234 and indicates the claimed limitation *stores the new history information relating to the input/output processing of said identified classified data including said received identification information*, e.g., registering the newly entry and the

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newly entry relating to the input/output processing of said identified classified data including said received identification information as discussed in the previous Office Action.

The missing of Miyazaki is *a predetermined order* of searching and storing the newly entry in *the determined earliest region*.

(2) A finding that the prior art contained a known technique that is applicable to the base device (method, or product)

Koseki teaches a technique of searching a log volume for an oldest log record by searching the entire log volume, with reference to the sequence number attached to each log record, and identifying the oldest log record (Koseki, Col. 17 — Lines 15-18). The Koseki searching indicates the search for an oldest log record is in *a predetermined order*, e.g., searching the entire log volume beginning with the biggest or smallest sequence number.

Steiner teaches the technique of storing the newly entry in *the determined earliest region*. (Steiner, Col. 1 — Lines 46-58).

(3) A finding that one of ordinary skill in the art would have recognized that applying the known technique would have yielded predictable results and resulted in an improved system

Supplementing the Miyazaki technique of searching with *a predetermined order* as taught by Koseki solves the problem of finding a particular entry in SIGNATURE LOG TABLE 2234 according to the search criteria. One of ordinary skill in the art would have recognized that applying the basic technique of searching with *a predetermined order* would have yielded a predictable outcome, e.g., an earliest entry in the SIGNATURE LOG TABLE 2234, and resulted in the improved system of Miyazaki.

Supplementing the Miyazaki technique of storing the newly entry in *the determined earliest region* solves the problem of maintaining the SIGNATURE LOG TABLE 2234 with fixed size. One of ordinary skill in the art would have recognized that applying the basic technique of storing the newly entry in *the determined earliest region* would have yielded a predictable outcome, e.g., maintaining the SIGNATURE LOG TABLE 2234 with fixed size

(4) Additional findings in view of the facts of the case under consideration, to explain a conclusion of obviousness

The claimed limitation *a predetermined order* for searching is a must in Miyazaki device in order to determine an earliest entry because the whole SIGNATURE LOG TABLE 2234 has to be searched as suggested by Koseki and the combination yielded nothing more than a predictable result to one of ordinary skill in the art.

As suggested by Steiner, the size of the log file would grow without bound and storing the new entry over the earliest entry is a way to control the fixed size log file (Steiner, Col. 1 -- Lines 46-58). Therefore, the technique of storing the newly entry in *the determined earliest region*, obviously, could be used in Miyazaki device as suggested by Steiner and the combination yielded nothing more than a predictable result to one of ordinary skill in the art.

Based upon the foregoing, the examiner has established a *prima facie* basis to deny patentability to the claimed subject matter at least because the applied combination of Miyazaki, Koseki and Steiner are proper under 35 U.S.C. § 103.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 9, the clause *the obtained two management numbers* references other items in the claims. It is unclear what items are being referenced.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyazaki et al. [USP 7,305,558 B1] in view of Koseki et al. [USP 6,732,124 B1] and Steiner et al. [USP 6,023,710].

Regarding claim 1, Miyazaki teaches *a data storage device for performing input/output of classified data in accordance with a constant procedure, storing said classified data, and operating to store history information or update at appropriate timing said history information in accordance with said constant procedure* (FIG. 2), comprising:

an interface performing external input/output of data (Miyazaki, FIG. 2, INTERFACE 20);

a data storage portion storing said classified data (Miyazaki, Col. 5 -- Lines 27-31 and Col. 5 Line -- 55-Col. 6 -- Line 5, messages such as electronic documents or digitized multimedia data with attached digital signature is considered as being equivalent to the claimed *classified data* are stored in *a data storage portion*, e.g., external storage device 13);

a log storage portion storing a plurality of items of the history information relating to the input/output of said classified data (Miyazaki, FIG. 3, SIGNATURE LOG TABLE 2234, Col. 6 -- Line 67→Col. 7 -- Line 14 and Lines 33-67, when signature attached messages are transferring between DIGITAL SIGNER SIDE APPARATUS and PURCHASE SIDE APPARATUS, *plurality of items of the history information relating to the input/output of said classified data*, e.g., hash values of messages, signatures to messages and purchase names, are stored in *a log storage portion*, e.g., SIGNATURE LOG TABLE 2234); and

a control portion controlling the input/output of said classified data (Miyazaki, Col. 6 Line 67-Col. 7 Line 14),

wherein

said log storage portion is provided as a ring buffer circulatorily utilizing two or more regions each storing one item of said history information (Miyazaki, FIG. 3, each entry or *region* of SIGNATURE LOG TABLE 2234 is stored *one item of said history information*, e.g., hash value of message, signature to message and purchase name),

each of the plurality of items of said history information stored in said log storage portion includes identification information identifying classified data to be input/output (Miyazaki, FIG. 3, SIGNATURE LOG TABLE 2234, each entry of SIGNATURE LOG TABLE 2234 includes *identification information identifying the classified data to be input/output*, e.g., hash value of transferred messages between DIGITAL SIGNER SIDE APPARATUS and PURCHASE SIDE APPARATUS), and

said control portion receives identification information identifying classified data to be input/output in accordance with start of input/output processing of said identified classified data, searches a plurality of regions in said log storage portion, determines the region storing the earliest item of the history information stored in said log storage portion as the earliest region, and stores new history information relating to the input/output processing of said identified classified data including said received identification information (Miyazaki, Col. 11 Lines 56-67).

The missing of Miyazaki is *a predetermined order* when searching, and storing the newly entry in *the determined earliest region*.

Koseki teaches the technique of searching a plurality of regions of a log file in *a predetermined order* (Koseki, Col. 17 Lines 15-18).

Steiner teaches the technique of storing the newly entry in *the determined earliest region*. (Steiner, Col. 1 Lines 46-58).

Supplementing the Miyazaki technique of searching with *a predetermined order* as taught by Koseki solves the problem of finding a particular entry in SIGNATURE LOG TABLE 2234 according to the search criteria. One of ordinary skill in the art would have recognized that

applying the basic technique of searching with a *predetermined order* would have yielded a predictable outcome, e.g., an earliest entry in the SIGNATURE LOG TABLE 2234, and resulted in the improved system of Miyazaki.

Supplementing the Miyazaki technique of storing the newly entry in *the determined earliest region* solves the problem of maintaining the SIGNATURE LOG TABLE 2234 with fixed size. One of ordinary skill in the art would have recognized that applying the basic technique of storing the newly entry in *the determined earliest region* would have yielded a predictable outcome, e.g., maintaining the SIGNATURE LOG TABLE 2234 with fixed size

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to include the a predetermined order when searching and using the earliest region for storing new entry as taught by Koseki and Steiner into Miyazaki device in order to determine the earliest entry of a log and maintain the fixed size SIGNATURE LOG TABLE 2234.

Regarding claim 2, Miyazaki, Koseki and Steiner, in combination, teach all of the claimed subject matter as discussed above with respect to claim 1, Miyazaki further discloses *in history information output processing of outputting a part or the whole of the history information in response to an output request for the history information, said control portion searches the plurality of regions in said log storage portion, determines said earliest region as well as the region storing the latest history information including said received identification information as the latest region, and outputs a part or the whole of the history information stored in said latest region via said interface* (Miyazaki, Col. 17 -- Lines 22-56). Koseki further teaches a *predetermined sequence* when searching (Koseki, Col. 17 -- Lines 15-18).

Regarding claim 3, Miyazaki, Koseki and Steiner, in combination, teach all of the claimed subject matter as discussed above with respect to claim 1, Miyazaki further discloses *in input processing of classified data including outputting of the history information, said control portion searches the*

plurality of regions in said log storage portion, determines said earliest region the latest region storing the latest history information including said received identification information, copies a part or the whole of the history information stored in the determined latest region into the determined earliest region to store the copied history information as new history information relating to the input processing of said classified data, and outputs a part or the whole of the history information stored in said determined earliest region via said interface (Miyazaki, Col. 17 -- Lines 22-56). Koseki further teaches the technique of searching the plurality of regions in said log storage portion in accordance with a predetermined sequence (Koseki, Col. 17 -- Lines 15-18).

Regarding claim 4, Miyazaki, Koseki and Steiner, in combination, teach all of the claimed subject matter as discussed above with respect to claim 2, Miyazaki further discloses *in re-output processing of said classified data including inputting of one additional item of the history information recorded in accordance with progress of said constant procedure by another device, said control portion said one additional item of the history information via said interface in addition to the received identification information, determines said earliest region and said latest region, and determines whether said classified data is to output or not, based on the history information stored in the determined earliest region and said received one additional item of the history information (Miyazaki, Col. 17 -- Lines 22-56).*

Regarding claim 5, Miyazaki, Koseki and Steiner, in combination, teach all of the claimed subject matter as discussed above with respect to claim 2, Miyazaki further discloses *in output processing of said classified data including inputting of one additional item of the history information recorded in accordance with progress of a constant procedure by another device, said control portion receives said one additional item of the history information via said interface in addition to the received identification information, determines said earliest region and said latest region, copies a part or the whole of the history information stored in the determined latest region into the determined earliest region to store the copied history information as the new history information relating to the output processing of said classified data, and determines whether said classified data is to output or not, based on the history information stored in said determined earliest region and*

said received one additional item of the history information (Col. 7 – Lines 30-67 and Col. 11 – Lines 55-67).

Regarding claim 6, Miyazaki, Koseki and Steiner, in combination, teach all of the claimed subject matter as discussed above with respect to claim 1, Miyazaki further discloses *after said earliest region is determined, said control portion updates at appropriate times the history information stored in said determined earliest region in accordance with progress of the constant procedure before end or interruption of the constant procedure in said input/output processing* (Col. 11 -- Lines 17-67).

Regarding claim 7, Miyazaki, Koseki and Steiner, in combination, teach all of the claimed subject matter as discussed above with respect to claim 1, Miyazaki further discloses *each of the plurality of items of said history information further includes a management number for identifying sequence stored in said log storage portion, and said earliest region storing the earliest item is detected based on the management numbers respectively included in two items of the history information stored in two regions arranged continuously in said log storage portion* (Col. 11 – Lines 17-67).

Regarding claim 8, Miyazaki, Koseki and Steiner, in combination, teach all of the claimed subject matter as discussed above with respect to claim 7, Miyazaki further discloses *said log storage portion is formed of a ring buffer circulatorily utilizing regions of N (N is a natural number larger than one) in number, and said management number is in a residue system of M (M is a natural number satisfying $(N < M)$)* (FIG. 3 and Col. 11 – Lines 17-67).

Regarding claim 9, Miyazaki, Koseki and Steiner, in combination, teach all of the claimed subject matter as discussed above with respect to claim 8, Miyazaki further discloses *said control portion obtains each of the management numbers respectively included in the two items of the history*

information store in the two regions arranged continuously in the log storage portion, determines whether the two items of the history information respectively including said management numbers are stored continuously or not, based on a difference between the obtained two management numbers, and detects one of said two continuous regions subsequent to the other as said earliest region when the two items of the history information are discontinuously stored (FIG. 3 and Col. 11 -- Lines 17-67).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q. PHAM whose telephone number is 571-272-4040. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JAMES K. TRUJILLO can be reached on 571-272-3677. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HUNG Q. PHAM/
Primary Examiner, Art Unit 2169

HUNG Q. PHAM
Primary Examiner
Art Unit 2169

March 21, 2009